

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

|   |   |
|---|---|
| <b>Date of mailing (day/month/year)</b><br>10 May 1999 (10.05.99)                 | <b>Applicant's or agent's file reference</b><br>10184P1 WO/MD         |
| <b>International application No.</b><br>PCT/GB98/02863                            | <b>Priority date (day/month/year)</b><br>25 September 1997 (25.09.97) |
| <b>International filing date (day/month/year)</b><br>22 September 1998 (22.09.98) |   |
| <b>Applicant</b><br>SUH, Janette et al  |   |

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

03 April 1999 (03.04.99)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

S. Mafla

Telephone No.: (41-22) 338.83.38

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

|   |   |   |
|---|---|---|
| Applicant's or agent's file reference<br><b>10184P1 WO/MD</b>   | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |   |
| International application No.<br><b>PCT/GB98/02863</b>  | International filing date (day/month/year)<br><b>22/09/1998</b>   | Priority date (day/month/year)<br><b>25/09/1997</b> |
| International Patent Classification (IPC) or national classification and IPC<br><b>A62D3/00</b>   |   |   |
| Applicant<br><b>RECKITT &amp; COLMAN PRODUCTS LIMITED et al.</b>  |   |   |
| <p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of    sheets.</p>  |   |   |
| <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I    <input checked="" type="checkbox"/> Basis of the report</li> <li>II   <input type="checkbox"/> Priority</li> <li>III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV   <input checked="" type="checkbox"/> Lack of unity of invention</li> <li>V    <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI   <input type="checkbox"/> Certain documents cited</li> <li>VII <input checked="" type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul> |   |   |
| Date of submission of the demand<br><br><b>03/04/1999</b>   | Date of completion of this report<br><br><div style="text-align: right; font-size: 1.2em;"><b>17. 12. 99</b></div>            |   |
| Name and mailing address of the international preliminary examining authority:<br><br><div style="display: flex; align-items: center;"> <div>             European Patent Office<br/>             D-80298 Munich<br/>             Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br/>             Fax: +49 89 2399 - 4465           </div> </div>   | Authorized officer<br><br><b>Schmid, A</b><br><br>Telephone No. +49 89 2399 8591  |   |



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB98/02863

## I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

### Description, pages:

1-25 as originally filed

### Claims, No.:

1-16 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

## III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
- ☒ claims Nos. 1-16 (partly).

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB98/02863

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the said claims Nos. 1-16(partly).

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

**see separate sheet**

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-16 (partly).

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB98/02863

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

|                               |             |      |
|-------------------------------|-------------|------|
| Novelty (N)                   | Yes: Claims |      |
|                               | No: Claims  | 1-16 |
| Inventive step (IS)           | Yes: Claims |      |
|                               | No: Claims  | 1-16 |
| Industrial applicability (IA) | Yes: Claims | 1-16 |
|                               | No: Claims  |      |

### 2. Citations and explanations

**see separate sheet**

## VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

**s e separate sheet**

**Re Item IV**

Lack of unity of invention

- 1) The subject-matter to be examined (cf. subject-matter 1 of PCT/ISA/210) corresponds to a method and a corresponding aerosol composition for deactivating a Der-f and/or a Der-p allergen by contacting it with a deactivant selected from (a) cedarwood oil, (b) hinokitiol, (c) hinoki oil and (d) 6-isopropyl-m-cresol. These substances share the common feature that they are terpenoids or mixtures comprising terpenoids.

However, it has to be pointed out that this feature is already known from WO-A-93 15774 and EP-A-716 143. Accordingly, the above subject-matter lacks a common inventive feature and thus a posteriori also a unifying feature in the sense of Rule 13.2 PCT.

Accordingly, the subject-matter to be examined lacks unity with respect to Rule 13.2 PCT.

**R Item V**

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- 1) WO 93 15774 A (BLANC MICHEL) 19 August 1993 (D1) claim 2 discloses a decontamination process (cf. D1, page 5, lines 3-5) comprising the application of aerosol comprising essential oils like citron, terpineol or thymol.

EP-A-0 716 143 (VEITH HORST K) 12 June 1996 (D2) discloses a cleaning and disinfection process with respect to allergens comprising the use of iso-propanol and a terpenoid. Preferred is the use of orange terpen/ orange oil.

DATABASE WPI Section Ch, Week 9439 Derwent Publications Ltd., London, GB; Class C03, AN 94-312861 XP002087548 & JP 06 237979 A (MATSUHIRA TENNENBUTSU KENKYUSHO KK), 30 August 1994 (D3) a method for reducing

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB98/02863

the activity of allergens from ticks by using a material comprising hinoki and/or eucalyptus oil and tannic acid (5-40 % oil) in ethanol.

DATABASE WPI Section Ch, Week 9209 Derwent Publications Ltd., London, GB; Class C05, AN 92-069406 XP002087549 & JP 04 013607 A (ISHIBASHI S) , 17 January 1992 & PATENT ABSTRACTS OF JAPAN vol. 016, no. 164 (C-0931), 21 April 1992 & JP 04 013607 A (SADAMI ISHIBASHI ET AL.), 17 January 1992 (D4) discloses an acaricidal composition comprising cupressacean oil. Especially mentioned in the original document are Chamaecyparis, Thuja and Thujopsis (presumably thereby covering cedar, hinoki and hinokitiol).

WO 96 09762 A (PHYTODIF LAB ;ROMBI MAX (FR)) 4 April 1996 (D5)  
DATABASE WPI Section Ch, Week 9628 Derwent Publications Ltd., London, GB; Class C05, AN 96-272701 XP002087550 & JP 08 113509 A (SUN S ENG KK) , 7 May 1996 (D5) discloses a mite preventing agent comprising hinokitiol, cypress oil or "hiba oil" (Japanese cypress) in form of an aerosol.

DATABASE WPI Section Ch, Week 8945 Derwent Publications Ltd., London, GB; Class C03, AN 89-327609 XP002087551 & JP 01 242508 A (TAISHO PHARM CO LTD) , 27 September 1989 (D6) discloses miticidal compositions (e.g. in form of an aerosol) comprising 3-25 wt.% hinokitiol.

CHEMICAL ABSTRACTS, vol. 69, no. 19, 4 November 1968 Columbus, Ohio, US; abstract no. 75913, HONMA, SHOICHI: 'Effect of various chemicals on mites' XP002087547 & YAKUZAIGAKU (1967), 27(3), 192-6 CODEN: YAKUA2,1967 (D7) discloses a method for treatment acarasis by using thymol.

US-A-5 461 751 (SEPKE ARNOLD L) 31 October 1995 (D8) discloses the use of cedar chips in combination with cedar oil as a freshener/repellent with respect to mites.

DATABASE WPI Section Ch, Week 9626 Derwent Publications Ltd., London, GB; Class A97, AN 96-253998 XP002087552 & JP 08 103402 A (EGASHIRA N) , 23 April 1996 (D9) discloses an miticidal composition comprising cypress oil in order to acarid-free environments.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB98/02863

Due to the fact that the applicant has claimed broadly a method for "deactivating" a Der-f and/ or a Der-p allergen, the present subject-matter (method: claims 1-7 and composition: claims 8-16) is not novel with respect to all the above disclosures and thus does not meet the requirements of Article 33(2) PCT.

- 2) Novel subject-matter of the present claims 1-16 cannot be considered to involve an inventive step since a skilled person looking for improvements of the already known methods and compositions would surely try to vary them in order to develop methods and compositions having possibly improved or alternative effects.

Accordingly, the novel subject-matter of present claims 1-16 does not involve an inventive step and therefore does not meet the requirements of Article 33(3) PCT.

**Re Item VII**

Certain defects in the international application

- 1) D1-D9 which represent a relevant prior art should be referred to in the description in accordance to Rule 5(1)(a)(ii) PCT.



# PATENT COOPERATION TREATY

RECEIVED

18 AUG 1999

From the :  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

DALE, Martin N.  
RECKITT & COLMAN PLC  
Group Patents Department  
Dansom Lane  
HULL, HU8 7DS  
GRANDE BRETAGNE

10184P1 WO

PCT

WRITTEN OPINION

(PCT Rule 66)

Date of mailing  
(day/month/year)

16.08.99  
REPLY DUE within 3 month(s)  
from the above date of mailing

Applicant's or agent's file reference  
10184P1 WO/MD

International application No.  
PCT/GB98/02863

International filing date (day/month/year)  
22/09/1998

Priority date (day/month/year)  
25/09/1997

International Patent Classification (IPC) or both national classification and IPC  
A62D3/00

Applicant  
RECKITT & COLMAN PRODUCTS LIMITED et al.

[Copy of Written Opinion  
& cites taken by Bob  
Pidgeon 6/10/99]

1. This written opinion is the first drawn up by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain document cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

**When?** See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also:** For an additional opportunity to submit amendments, see Rule 66.4.  
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.  
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 25/01/2000.

Name and mailing address of the international preliminary examining authority:



European Patent Office  
D-80298 Munich  
Tel. (+49-89) 2399-0 Tx: 523656 epmu d  
Fax: (+49-89) 2399-4465

Authorized officer / Examiner

Schmid, A

Formality officer (incl. extension of time limits)

DA ROCHA, O.  
Telephone No. (+49-89) 2399 8101



**I. Basis of the opinion**

1. This opinion has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".*):

**Description, pages:**

1-25 as originally filed

**Claims, No.:**

1-16 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been and will not be examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 1-16 (partly),

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the said claims Nos. 1-16(partly).

**IV. Lack of unity of invention**

1. In response to the invitation (Form PCT/IPEA/405) to restrict or pay additional fees, the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with for the following reasons and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees:

**see separate sheet**

3. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this opinion:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-16 (partly).

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

|                               |             |
|-------------------------------|-------------|
| Novelty (N)                   | Claims 1-16 |
| Inventive step (IS)           | Claims 1-16 |
| Industrial applicability (IA) | Claims      |

2. Citations and explanations

**s e s parat sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**s e separate sheet**

**Re Item IV**

**Lack of unity of invention**

- 1) The subject-matter to be examined (cf. subject-matter 1 of PCT/ISA/210) corresponds to a method and a corresponding aerosol composition for deactivating a Der-f and/or a Der-p allergen by contacting it with a deactivant selected from (a) cedarwood oil, (b) hinokitiol, (c) hinoki oil and (d) 6-isopropyl-m-cresol. These substances share the common feature that they are terpenoids or mixtures comprising terpenoids.

However, it has to be pointed out that this feature is already known from WO-A-93 15774 and EP-A-716 143. Accordingly, the above subject-matter lacks a common inventive feature thus a posteriori also a unifying feature in the sense of Rule 13.2 PCT.

Accordingly, the subject-matter to be examined lacks unity with respect to Rule 13.2 PCT.

**Re Item V**

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

- 1) WO 93 15774 A (BLANC MICHEL) 19 August 1993 (D1) claim 2 discloses a decontamination process (cf. D1, page 5, lines 3-5) comprising the application of aerosol comprising essential oils like citron, terpineol or thymol.

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**WRITTEN OPINION  
SEPARATE SHEET**

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International application No. PCT/GB98/02863

the activity of allergens from ticks by using a material comprising hinoki and/or eucalyptus oil and tannic acid (5-40 % oil) in ethanol.

DATABASE WPI Section Ch, Week 9209 Derwent Publications Ltd., London, GB; Class C05, AN 92-069406 XP002087549 & JP 04 013607 A (ISHIBASHI S) , 17 January 1992 & PATENT ABSTRACTS OF JAPAN vol. 016, no. 164 (C-0931), 21 April 1992 & JP 04 013607 A (SADAMI ISHIBASHI ET AL.), 17 January 1992 (D4) discloses an acaricidal composition comprising cupressacean oil. Especially mentioned in the original document are Chamaecyparis, Thuja and Thujopsis (presumably thereby covering cedar, hinoki and hinokitiol).

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DATABASE WPI Section Ch, Week 9628 Derwent Publications Ltd., London, GB; Class C05, AN 96-272701 XP002087550 & JP 08 113509 A (SUN S ENG KK) , 7 May 1996 (D5) discloses a mite preventing agent comprising hinokitiol, cypress oil or "hiba oil" (Japanese cypress) in form of an aerosol.

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US-A-5 461 751 (SEPKE ARNOLD L) 31 October 1995 (D8) discloses the use of cedar chips in combination with cedar oil as a freshener/repellent with respect to mites.

DATABASE WPI Section Ch, Week 9626 Derwent Publications Ltd., London, GB; Class A97, AN 96-253998 XP002087552 & JP 08 103402 A (EGASHIRA N) , 23 April 1996 (D9) discloses an miticidal composition comprising cypress oil in order

to acarid-free environments.

Due to the fact that the applicant has claimed broadly a method for "deactivating" a Der-f and/ or a Der-p allergen, the present subject-matter (method: claims 1-7 and composition: claims 8-16) is not novel with respect to all the above disclosures and thus does not meet the requirements of Article 33(2) PCT.

- 2) Novel subject-matter of the present claims 1-16 cannot be considered to involve an inventive step since a skilled person looking for improvements of the already known methods and compositions would surely try to vary them in order to develop methods and compositions having possibly improved or alternative effects.

Accordingly, the novel subject-matter of present claims 1-16 does not involve an inventive step and therefore does not meet the requirements of Article 33(3) PCT.

**Re Item VII**

**Certain defects in the international application**

- 1) D1-D9 which represent a relevant prior art should be referred to in the description in accordance to Rule 5(1)(a)(ii) PCT.



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Eur päisch s  
Pat ntamt

Generaldirektion 2

Europ an  
Pat nt Offic

Directorate General 2

Offic ur péen  
d s br vets

Direction Générale 2

## Correspondence with the EPO on PCT Chapter II demands

In order to ensure that your PCT Chapter II demand is dealt with as promptly as possible you are requested to use the enclosed self-adhesive labels with any correspondence relating to the demand sent to the Munich Office.

One of these labels should be affixed to a prominent place in the upper part of the letter or form etc. which you are filing.



## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

|  |   |  |
|--|---|--|
| Applicant's or agent's file reference<br><b>10184P1 WO/MD</b>    | <b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. |  |
| International application No.<br><b>PCT/GB 98/ 02863</b>         | International filing date (day/month/year)<br><b>22/09/1998</b>   | (Earliest) Priority Date (day/month/year)<br><b>25/09/1997</b> |
| Applicant<br><b>RECKITT &amp; COLMAN PRODUCTS LIMITED et al.</b> |   |  |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.  
☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished
2. ☐ Certain claims were found unsearchable (See Box I).
3. ☒ Unity of invention is lacking (see Box II).

## 4. With regard to the title,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

## 5. With regard to the abstract,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

## 6. The figure of the drawings to be published with the abstract is Figure No.

- ☐ as suggested by the applicant.
- ☐ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.
- ☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB 98/ 02863

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see further information sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-16 (partially)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

1. Claims : 1- 16 (partially)

A method and a corresponding aerosol composition for deactivating a Der-f and/or a Der-P allergen by contacting it with a deactivant selected from:

- a) cedarwood oil
- b) hinokitiol
- c) hinoki oil
- d) 6- isopropyl- m- cresol

2. Claims : 1- 6, 8- 10 12- 16 (partially)

as subject 1, but the deactivant is hexadecyltrimethylammonium chloride

3. Claims : 1- 6, 8- 10, 12- 16 (partially)

as subject 1, but the deactivant is aluminium chlorohydrate

4. Claims : 1- 6, 8- 10, 12- 16 (partially)

as subject 1, but the deactivant is 1- propoxy- propanol

5. Claims : 1- 6, 8- 10, 12- 16 (partially)

as subject 1, but the deactivant is polyquaternium- 10

6. Claims : 1- 6, 8- 10, 12- 16 (partially)

as subject 1, but the deactivant is silica gel

7. Claims : 1- 6, 8- 10, 12- 16 (partially)

as subject 1, but the deactivant is propylene glycol alginate

8. Claims : 1- 6, 8- 10, 12- 16 (partially)

as subject 1, but the deactivant is ammonium sulphate

9. Claims : 1- 6, 8- 10, 12- 16 (partially)

as subject 1, but the deactivant is L- ascorbic acid

10. Claims : 1- 6, 8- 10, 12- 16 (partially)

as subject 1, but the deactivant is cyclodextrin

11. Claims : 1- 16 (partially)

as subject 1, but the deactivant is chlorohexidine

12. Claims : 1- 16 (partially)

as subject 1, but the deactivant is maleic anhydride

13. Claims : 1- 16 (partially)

as subject 1, but the deactivant is a composition of AgCl and TiO<sub>2</sub>

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

14. Claims : 1- 16 (partially)  
as subject 1, but the deactivant is diazolidinyl urea
15. Claims : 1- 16 (partially)  
as subject 1, but the deactivant is a compound of formula (I), i.e. sodium dioctyl  
2- sulfosuccinate
16. Claims : 1- 16  
as subject 1, but the deactivant is a compound of formula (II), i.e. 4,7-Dimethoxy- 5-  
(2- propenyl)- 1,3- benzodioxol
17. Claims : 1- 6, 8- 10, 12- 16 (partially)  
as subject 1, but the deactivant is a polymeric dialdehyde containing two or more of  
a recurring unit of formula III, i.e. oxidized starch
18. Claims : 1, 2, 4- 6, 8, 9, 12- 16 (partially)  
as subject 1, but the deactivant is urea
19. Claims : 1, 2, 4, 5, 8, 9, 12- 16 (partially)  
as subject 1, but the deactivant is cyclodextrin
20. Claims : 1, 2, 4, 5, 8, 9, 12- 16 (partially)  
as subject 1, but the deactivant is hydrogenated hop oil
21. Claims : 1, 2, 4, 5, 8, 9, 12- 16 (partially)  
as subject 1, but the deactivant is polyvinylpyrrolidone
22. Claims : 1, 2, 4, 5, 8, 9, 12- 16 (partially)  
as subject 1, but the deactivant is N- Methylpyrrolidone
23. Claims : 1, 2, 4, 5, 7- 9, 11- 16 (partially)  
as subject 1, but the deactivant is the sodium salt of anthraquinone
24. Claims : 1, 3, 4, 6, 8, 10, 12- 16 (partially)  
as subject 1, but the deactivant is potassium thioglycolate
25. Claims : 1, 3, 4, 6, 8, 10, 12- 16 (partially)  
as subject 1, but the deactivant is glutaraldehyde

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 98/02863

## A. CLASSIFICATION OF SUBJECT MATTER

|       |           |           |           |           |           |
|-------|-----------|-----------|-----------|-----------|-----------|
| IPC 6 | A62D3/00  | A61L2/22  | A01N65/00 | A01N59/16 | A01N59/06 |
|       | A01N59/02 | A01N59/00 | A01N47/44 | A01N47/36 | A01N47/28 |
|       | A01N43/36 | A01N43/30 | A01N43/16 | A01N43/08 | A01N41/04 |

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## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|------------|---|-----------------------|
| X          | WO 93 15774 A (BLANC MICHEL)<br>19 August 1993<br>see page 2, line 14 - line 31<br>see page 5, line 3 - page 7, line 8<br>see page 7, line 24 - line 29<br>see page 8, line 5 - line 16; claims<br>---                | 1-16                  |
| X          | EP 0 716 143 A (VEITH HORST K)<br>12 June 1996<br>see column 2, line 56 - column 4, line 29<br>see column 5, line 19 - line 28<br>see column 6, line 11 - column 7, line 58;<br>claims 1,3,10,11,15,17<br>---<br>-/-- | 1-16                  |

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Date of the actual completion of the international search

15 December 1998

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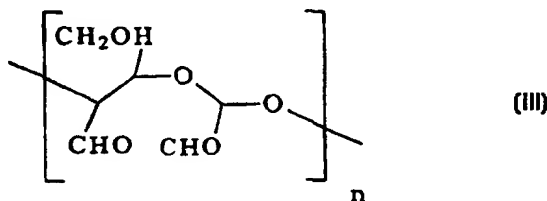
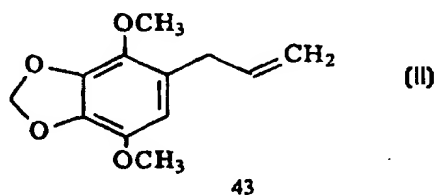
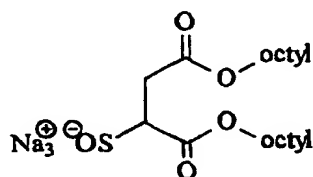
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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

|  |  |  |   |
|--|--|--|---|
| (51) International Patent Classification <sup>6</sup> :<br><b>A61L 9/00</b>  |  | <b>A2</b>  | (11) International Publication Number:<br><b>WO 99/15208</b>    |
|  |  |  | (43) International Publication Date:<br>1 April 1999 (01.04.99) |
| (21) International Application Number: PCT/GB98/02863<br>(22) International Filing Date: 22 September 1998 (22.09.98)<br>(30) Priority Data:<br>9720275.8      25 September 1997 (25.09.97)    GB<br>9720298.0      25 September 1997 (25.09.97)    GB<br>(71) Applicant (for all designated States except US): RECKITT & COLMAN PRODUCTS LIMITED [GB/GB]; 67 Alma Road, Windsor, Berkshire SL4 3HD (GB).<br>(72) Inventors; and<br>(75) Inventors/Applicants (for US only): BUIH, Janette [US/US]; 690-F River Road, New Milford, NJ 07646 (US); McK-ECHNIE, Malcolm, Tom [GB/GB]; Spring Rise, 12a North Road, Lund, Driffield, East Yorkshire YO25 9TF (GB); CORNELIUS, Gay [GB/GB]; 57 The Wolds, Cottingham, East Yorkshire HU16 5LQ (GB); THOMPSON, Ian, Andrew [AU/AU]; 2 Blanford Street, Collaroy Plateau, NSW 2097 (AU).<br>(74) Agents: DALE, Martin, Nicholas et al.; Reckitt & Colman plc, Group Patents Dept., Dansom Lane, Hull HU8 7DS (GB). |  | (81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).<br><br><b>Published</b><br>Without international search report and to be republished upon receipt of that report. |   |

(54) Title: DEACTIVANTS FOR DUST MITE ALLERGENS



## (57) Abstract

Der-f and/or Der-p dust mite allergens are deactivated by an amount of one or more of the following deactivants: i) cedarwood oil, ii) hexadecyltrimethylammonium chloride, iii) aluminium chlorohydrate, iv) 1-propoxy-propanol-2, v) polyquaternium-10, vi) silica gel, vii) propylene glycol alginate, viii) ammonium sulphate, ix) hinokitiol, x) L-ascorbic acid, xi) immobilised tannic acid, xii) chlorohexidine, xiii) maleic anhydride, xiv) hinoki oil, xv) a composite of AgCl and TiO<sub>2</sub>, xvi) diazolidinyl urea, xvii) 6-isopropyl-m-cresol, xviii) a compound of formula (I), xix) the compound of formula (II), xx) a polymeric dialdehyde containing two or more of a recurring unit of formula (III), where n = 2 to 200, xxi) urea, xxii) cyclodextrin, xxiii) hydrogenated hop oil, xxiv) polyvinylpyrrolidone, xxv) N-methylpyrrolidone, xxvi) the sodium salt of anthraquinone, xxvii) potassium thioglycolate, and xxviii) glutaraldehyde. Deactivants (i) to (xx) are effective against allergens derived from both species. Deactivants (xxi) to (xxvi) are effective against only Der-f allergens. Deactivants (xxvii) and (xxviii) are effective against only Der-p allergens. Aerosol compositions comprise said deactivants, a propellant and optional solvents.

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 98/02863

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 A01N37/40 A01N37/36 A01N37/06 A01N35/06 A01N35/02  
 A01N33/12 A01N31/08 A01N31/06 A01N31/02 A01N27/00  
 A01N25/06 //(A01N43/16,35:06,27:00),(A01N31/06,

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| X          | <p>DATABASE WPI<br/>           Section Ch, Week 9439<br/>           Derwent Publications Ltd., London, GB;<br/>           Class C03, AN 94-312861<br/>           XP002087548<br/>           &amp; JP 06 237979 A (MATSUHIRA TENNENBUTSU<br/>           KENKYUSHO KK), 30 August 1994<br/>           see abstract</p> <p style="text-align: center;">-/--</p> | 1-16                  |

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## INTERNATIONAL SEARCH REPORT

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| X          | DATABASE WPI<br>Section Ch, Week 9209<br>Derwent Publications Ltd., London, GB;<br>Class C05, AN 92-069406<br>XP002087549<br>& JP 04 013607 A (ISHIBASHI S)<br>, 17 January 1992<br>see abstract<br>& PATENT ABSTRACTS OF JAPAN<br>vol. 016, no. 164 (C-0931), 21 April 1992<br>& JP 04 013607 A (SADAMI ISHIBASHI ET<br>AL.), 17 January 1992<br>see abstract<br><br>---<br>-/-- | 1-16                  |

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15 December 1998

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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|------------|---|------------------------|
| X          | <p>DATABASE WPI<br/> Section Ch, Week 9628<br/> Derwent Publications Ltd., London, GB;<br/> Class C05, AN 96-272701<br/> XP002087550<br/> &amp; JP 08 113509 A (SUN S ENG KK)<br/> , 7 May 1996<br/> see abstract</p> <p>---</p>  | 1-6,<br>8-10,<br>12-16 |
| X          | <p>DATABASE WPI<br/> Section Ch, Week 8945<br/> Derwent Publications Ltd., London, GB;<br/> Class C03, AN 89-327609<br/> XP002087551<br/> &amp; JP 01 242508 A (TAISHO PHARM CO LTD)<br/> , 27 September 1989<br/> see abstract</p> <p>---</p>  | 1-6,<br>8-10,<br>12-16 |
| X          | <p>CHEMICAL ABSTRACTS, vol. 69, no. 19,<br/> 4 November 1968<br/> Columbus, Ohio, US;<br/> abstract no. 75913,<br/> HONMA, SHOICHI: "Effect of various<br/> chemicals on mites"<br/> XP002087547<br/> see abstract<br/> &amp; YAKUZAIGAKU (1967), 27(3), 192-6 CODEN:<br/> YAKUA2, 1967,</p> <p>---</p> | 1-7                    |
| X          | <p>US 5 461 751 A (SEPKE ARNOLD L)<br/> 31 October 1995<br/> see column 1, line 5 - line 51<br/> see column 2, line 21 - line 25</p> <p>---</p>   | 1-6                    |
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| A          | <p>US 4 806 526 A (GREEN WESLEY F)<br/> 21 February 1989<br/> cited in the application<br/> see the whole document</p> <p>---</p>   | 1-16                   |
| A          | <p>WO 96 09762 A (PHYTODIF LAB ;ROMBI MAX<br/> (FR)) 4 April 1996<br/> see page 1 - page 2, line 5<br/> see page 7, line 12 - line 17; example 3</p> <p>-----</p>   | 1-16                   |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 98/02863

| Patent document<br>cited in search report |   | Publication<br>date | Patent family<br>member(s)   | Publication<br>date  |
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